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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,231

02/02/2007

Marc Husemann

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EXAMINER

NELSON, MICHAEL B

ART UNIT

PAPER NUMBER

1798

MAIL DATE

DELIVERY MODE

01/05/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,231	Applicant(s) HUSEMANN ET AL.	
	Examiner MICHAEL B. NELSON	Art Unit 1798	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/23/10 has been entered. Claims 1-8 are currently under examination on the merits.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 4 recites "reactive" resins (i.e. curable resins) as an optional additive which contradicts claim 1. This makes it unclear if the resin is truly thermoplastic (i.e. not curable at all) or if it is just meant to be thermoplastic until it is cured at a higher temperature. If the adhesive is truly thermoplastic it is unclear how reactive resins like those of claim 4 can be incorporated with the adhesive and still let it be truly thermoplastic. For the purpose of advancing prosecution the examiner will take "thermoplastic heat activatable" to mean either completely thermoplastic or thermoplastic up to the point where the reactive resin crosslinks (in accordance with the reactive resins of claim 4).

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Copperwheat (U.S. 6,846,759).

7. Regarding claims 1 and 7, Copperwheat discloses an adhesive sheet or tape (the adhesive layer being considered a tape in that it is a flexible film) which utilizes and adhesive that meets the instantly claimed properties (C4, L5-60, Griltex 9 is the same adhesive used in Example 2 of the instant specification on page 10). The adhesive is thermoplastic and heat activatable in that it is melted to be applied and is not cured. The optional other resins are not used in the reference.

8. Regarding claim 3, the Griltex 9 used in Copperwheat is a copolyester resin (See Page 10 of the instant specification).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 2, 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copperwheat (U.S. 6,846,759) as applied to claim 1 above, in view of Watada (U.S. 6,012,641).

12. Regarding claims 5 and 6, Watada discloses a method for bonding chip modules, (the top 1 and 2 that bear the chip 4, Fig. 4a and b) with card bodies (the bottom 1 and 2, Fig. 4b) in which a thermoplastic adhesive is used to bind the layers together (C4, L55-C4, L10). The materials for the layers are polyesters including PET (See Abstract, C3, L5-15). Copperwheat discloses a thermoplastic adhesive that is known to bond to polyester substrates (C3, L50-C4, L60). The Griltex adhesive meets the claimed properties of claim 1 as explained in the rejection of claim 1. Hence it would have been obvious to have used the Griltex adhesive of Copperwheat to bond the PET layers making up the chip module and the card body in Watada because the adhesive was known to bond polyester substrates.

13. Regarding claims 2 and 8, the thickness of the adhesive used to bond the substrates is disclosed in Watada as being controllable to prevent deformation of the card (C4, L1-10) and therefore would have been adjustable by one having ordinary skill based on the thickness of the cards used and the amount of deformation that is to be tolerated. Hence one having ordinary

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skill would have arrived at the claimed range of adhesive thickness in adjusting the proper amount of adhesive for binding the substrates.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Copperwheat (U.S. 6,846,759) as applied to claim 1 above, in view of Uno (U.S. 4,065,439).

15. Regarding claim 4, Copperwheat does not disclose that the hot melt adhesive include reactive epoxy resins; however, Uno discloses that thermoplastic hot melt adhesives can include reactive epoxy components to increase solvent resistance (C4, L25-30). The adhesive is still considered thermoplastic heat activable in that it is thermoplastic until the crosslinking epoxy component is added. Hence it would have been obvious to have used a reactive epoxy with the hot melt adhesive of Copperwheat, as taught by Uno, to improve solvent resistance.

Response to Arguments

16. Applicant's arguments of 09/23/10 are considered moot in light of the new grounds of rejection which were necessitated by applicant's amendments. Arguments which are still deemed valid.

17. Applicant argues that it is now clear that the adhesive is thermoplastic. The examiner would agree except claim 4 requires the inclusion of a "reactive" resin. A reactive resin is considered a curable resin and therefore its inclusion would render the adhesive settable and not thermoplastic in a pure sense. This makes it unclear if the adhesive is purely thermoplastic (i.e. cannot be cured) or is thermoplastic in that it can be melted onto a substrate at a low temperature and then deformed again at that low temperature before being cured after it has been applied. Claim 4 seems to imply that in claim 1, the optional resin could be a curing resin (since it is

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required to be in claim 4) and therefore claim 1 appears to allow a thermoplastic adhesive that has thermosetting (or otherwise crosslinkable) properties.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL B. NELSON whose telephone number is (571) 270-3877. The examiner can normally be reached on Monday through Friday 6AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571) 272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela Ortiz/
Supervisory Patent Examiner, Art Unit
1798

/MN/
11/20/10